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* Please deliver to Examiner Shanon A. Foley in Art Unit 1648.*

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Examiner: Shanon A. Foley

Serial No.: 09/521,524

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Title: RAPID GENERATION OF RECOMBINANT ADENOVIRAL VECTORS

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in the Scoggin patent, held invalid by the Supreme Court in *Calmar v. Cook Chemical Co.* contained 268 words.³

[b]—**Preamble, Transition, and Body.** A claim typically contains three parts: the preamble, the transition and the body.

The preamble is an introductory phrase that may summarize the invention, its relation to the prior art, or its intended use or properties.⁴ For example, in the following two claims, the italicized portion is the preamble.

*"59. An anti-pop and unsound kernel peanut foliage preparation for reducing pops and unsound kernels in peanut plants comprising, as an active ingredient, a calcium-containing compound of a sufficiently small particle size which when applied to the foliage of a peanut crop will substantially reduce the formation of pops and unsound kernels."*⁵

"1. In an improved oral multifactor hematinic vitamin preparation which contains vitamin B₁₂ and folic acid, the improvement which comprises at least 0.1 milligram of vitamin

³ See *Calmar, Inc. v. Cook Chem. Co.*, 220 F. Supp. 414, 417, 138 USPQ 432 (W.D. Mo. 1963), *aff'd*, 336 F.2d 110, 142 USPQ 412 (8th Cir. 1964), *rev'd*, 383 U.S. 1, 15 L. Ed. 2d 545, 86 S. Ct. 684 (1966), discussed at § 5.02[5][c] *supra*. See also *Diamond Int'l Corp. v. Maryland Fresh Eggs, Inc.*, 523 F.2d 113, 187 USPQ 193 (4th Cir. 1975), *cert. denied*, 424 U.S. 914 (1976) (571 word claim for molded pulp egg carton); *Huron Mfg. Corp. v. CMI Corp.*, 201 USPQ 111 (D.S.D. 1978) (247 words).

By way of contrast, claims in chemical applications may be comparatively short: In many areas of chemical patent practice, it is common to use a "fingerprint" claim. See, e.g., *In re Grose*, 592 F.2d 1161, 201 USPQ 57 (CCPA 1979) ("The claims define appellants' synthetic zeolite in terms of its chemical composition and in terms of its physical, i.e., crystal, structure. . . . Appellants have followed the apparently universal practice in this art of 'fingerprinting' the crystal structure of their zeolite through a characteristic X-ray powder diffraction pattern.").

See also *Ex parte Moon*, 224 USPQ 519 (PTO Bd. App. 1984) (various radicals and other molecule positions defined as follows: "where R₁, R₂, . . . are defined in the specification;" claim is clear and thus not rejectable under Section 112—though it may be subject to a formal objection); *Ex parte Sudan*, 224 USPQ 614 (PTO Bd. App. 1983) (claim to "two container pack" of ingredients for mixing to form a foam is not improper even though the foam produced cannot be reformed to its original constituent parts).

⁴ For a discussion of whether the preamble is a limitation on the claim, see § 8.06[1][d] *infra*.

⁵ *In re Pearson*, 494 F.2d 1399, 1401, 181 USPQ 641 (CCPA 1974).

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B₁₂ and at least 0.1 milligram of folic acid, in an approximate one to one ratio.”⁶

The transition is a phrase connecting the preamble to the body of the claim. The content of the phrase may indicate whether the elements stated in the body are “open” or “closed.” The claims quoted above use the transition phrases “comprising” and “the improvement which comprises.” In the lexicon of patent law, “comprising” means that the “recited elements are only a part of the device.”⁷ In other words, if the invention is claimed as

⁶ *In re Jansen*, 525 F.2d 1059, 1060, 187 USPQ 743 (CCPA 1975), cert. denied, 425 U.S. 972 (1976).

⁷ See, e.g., *Molecular Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805, 812 (Fed. Cir. 1986), cert. denied, 479 U.S. 1030, on remand, 666 F. Supp. 661, 4 USPQ2d 1312 (D. Del. 1987), rev’d, ___ F.2d ___ (Fed. Cir. 1989) (when used in a transitional phrase, the word “comprising” is a term of art and means that the claim does not exclude additional, unrecited elements; however, when such a term is used other than in a transition, it is subject to normal interpretative rules and may mean “having” rather than “having at least.”); *Berenter v. Quigg*, 14 USPQ2d 1175 (D.D.C. 1988) (citing Treatise); *Cues Inc. v. Polymer Industries Inc.*, 680 F. Supp. 380, 8 USPQ2d 1847 (N.D. Ga. 1988); *Hybritech, Inc. v. Abbott Laboratories*, 4 USPQ2d 1001 (C.D. Calif. 1987), aff’d, 849 F.2d 1446, 7 USPQ2d 1191 (Fed. Cir. 1988); *Dow Chemical Co. v. American Cyanamid Co.*, 615 F. Supp. 471, 484, 229 USPQ 171, 180 (E.D. La. 1985), aff’d, 816 F.2d 617, 2 USPQ2d 1350 (Fed. Cir. 1987), cert. denied 108 S. Ct. 1490 (1987) (“The term ‘comprising’ permits the inclusion of other steps, elements or materials in addition to the elements or components specified in the claims.”); *Rccsc v. Hurst*, 661 F.2d 1222, 211 USPQ 936 (CCPA 1981); *Molecular Research Corp. v. CBS, Inc.*, 594 F. Supp. 1420, 224 USPQ 595, 606 (D. Del. 1984), aff’d, in part, vacated in part, and remanded, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986) (D. Del. 1984) (“The term ‘comprising’ denotes a patent claim as being ‘open,’ meaning that the recitation of structure in the claim is open to additional structural elements not explicitly mentioned.”); *Ex parte Schaefer*, 171 USPQ 110 (Pat. Off. Bd. App. 1970) (“The claims contain two words ‘including’ . . . and ‘comprising’ . . . which words mean to us that the recited elements are only a part of the device defined in the specification. Omission of some of the elements of the device makes the claim broad, but not vague, indefinite or misdescriptive.”).

See also *Mr. Hanger, Inc. v. Cut Rate Plastic Hangers, Inc.*, 372 F. Supp. 88, 94, 181 USPQ 850 (E.D. N.Y. 1974); *Azoplate Corp. v. Silverlith, Inc.*, 367 F. Supp. 711, 732, 180 USPQ 616 (D. Del. 1973), aff’d, 506 F.2d 1050, 184 USPQ 577 (3d Cir. 1974), cert. denied 421 U.S. 914 (1975); *Harrington Mfg. Co. v. White*, 323 F. Supp. 1345, 1353 (N.D. Fla. 1971), rev’d, 475 F.2d 788, 177 USPQ 289 (5th Cir. 1973), reh’g denied, 478 F.2d 1402 (5th Cir.

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"comprising" elements X and Y, it may also "read on" and cover a device with elements X, Y, and Z. The claim is thus "open." "Including" and "having" can also be used in drafting an open claim.^{7.1} "Consisting," on the other hand, means that the claim covers devices having the recited elements and no more.⁸ If the invention is claimed as "consisting" of elements X and Y, it will not literally read on or cover a device with elements X, Y, and Z. The claim is thus "closed." Claim draftsmen prefer to avoid closed claims unless the nature of the invention is such as to

1973), cert. denied 414 U.S. 1040 (1973) ("The word 'comprises' when used in a patent claim . . . is synonymous with the word 'includes' and does not preclude the presence of other elements as part of the described structure.").

Compare *American Original Corp. v. Jenkins Food Corp.*, 216 USPQ 945 (4th Cir. 1982), *appeal after remand*, 774 F.2d 459, 227 USPQ 299 (Fed. Cir. 1985); *Hormone Research Foundation v. Genentech Inc.*, 8 USPQ2d 1377, 1381 (N.D. Calif. 1988) (as to claims reciting that compositions "comprise" or "consistent essentially of" a structure "corresponding" to the sequence of amino acid residues recited in a figure of the patent: the open transitions cannot expand the claims to cover products that are different from the specified sequences).

See generally Flank, "Claims—Words and Phrases—Exterior Standards," *The Encyclopedia of Patent Practice and Invention Management* 151 (Calvert ed. 1964).

^{7.1} As to the effect of the transition term "characterized by," see *Mannesmann Demag Corp. v. Engineered Metal Products Co.*, 226 USPQ 466, 480 (D. Del. 1985), *aff'd*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986) ("[t]here is no authority] standing for the proposition that the transitional phrase 'characterized by' acts to close a claim to its recited elements and nothing further").

⁸ *In re Certain Slide Fastener Stringers & Machines & Components Thereof for Producing Such Slide Fastener Stringers*, 216 USPQ 907 (U.S. Int'l Trade Comm. 1981) (citing Treatise; closed nature of "consisting of" applies to nonchemical as well as chemical cases); *Ex parte Davis*, 80 USPQ 448 (Pat. Off. Bd. App. 1949) ("the word 'consisting' in a claim is construed as definitely excluding therefrom any element or ingredient not specified therein.").

Cf. *Mannesmann Demag Corp. v. Engineered Metal Products Co., Inc.*, 793 F.2d 1279, 230 USPQ 45 (Fed. Cir. 1986) (when the phrase "consisting of" appears in one clause of the patent, rather than in the preamble, it limits only the element set forth in that clause; the phrase does not exclude all other elements from the claim as a whole).

See also *Berenter v. Quigg*, 14 USPQ2d 1175, 1176 (D.D.C. 1988) (*Mannesmann* means that "an applicant can leave the claim open with respect to additional elements, but can close the claim with respect to a particular element").

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require such restriction to avoid undue breadth. (Chemical compounds are often of this nature.) A variant of the strict closed claim is created by use of the phrase "consisting essentially of" which covers combinations with some additional elements but excludes "additional unspecified ingredients which would affect the basic and novel characteristics of the product defined in the balance of the claim."⁹

(Text continued on page 8-104)

⁹ *Atlas Powder Co. v. E.I. du Pont de Nemours & Co.*, 750 F.2d 1569, 1574, 224 USPQ 409, 412 (Fed. Cir. 1984) (phrase "consisting essentially of" "excludes ingredients that would 'materially affect the basic and novel characteristics' of the claimed composition"); *In re Herz*, 537 F.2d 549, 190 USPQ 461 (CCPA 1976); *Norton Co. v. Carborundum Co.*, 530 F.2d 435, 189 USPQ 1 (1st Cir. 1976); *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221 (CCPA 1969) ("the 'consisting essentially of . . .' terminology would . . . exclude additional unspecified ingredients which would affect the basic and novel characteristics of the product defined in the balance of the claim."); *In re Janakirama-Rao*, 317 F.2d 951, 954, 137 USPQ 893 (CCPA 1963) ("The word 'essentially' opens the claims to the inclusion of ingredients which do *not* materially affect the basic and novel characteristics of appellant's compositions as defined in the balance of the claim. . . . But no basic or novel characteristic to be so affected can be deducted from the disclosure. . . ."); *Water Technologies Corp. v. Calco, Ltd.*, 850 F.2d 660, 666, 7 USPQ2d 1097, 1102 (Fed. Cir. 1988), *on remand*, 709 F. Supp 821, 714 F. Supp. 899, 11 USPQ2d 1217, 1410 (N.D. Ill. 1989) (the phrase "consisting essentially of" does not exclude the addition of another ingredient which does not materially affect the characteristics of the invention); *Syntex (U.S.A.) Inc. v. Paragon Optical Inc.*, 7 USPQ2d 1001, 1016, 1037 (D. Ariz. 1987) ("The alleged inclusion of minor ingredients in defendants' products does not change the basic and novel characteristics of the useful gas-permeable contact lens as defined in the balance of the claim and therefore does not avoid infringement. That is, of course, the meaning of 'consisting essentially of.' It does not preclude the defendants' addition of cross-linking and wetting monomers to adjust rigidity and wettability as expressly taught by [the] patents."); *Water Technologies Corp. v. Calco Ltd.*, 1 USPQ2d 1178, 1188 (N.D. Ill. 1986), *on motion to amend judgment*, 1 USPQ2d 1872 (N.D. Ill. 1987), *aff'd in part, rev'd in part, vacated in part, and remanded*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988), *on remand*, 709 F. Supp 821, 714 F. Supp. 899, 11 USPQ2d 1217, 1410 (N.D. Ill. 1989) ("the language used in all the patent claims such as 'consisting essentially of' or 'comprising' is language recognized under the law . . . as not excluding minor amounts of other ingredients which have little, if any, effect on the performance or characteristics of the composition or method."); *Dow Chemical Co. v. American Cyanamid Co.*, 615 F. Supp. 471, 484, 229 USPQ 171, 180 (E.D. La. 1985), *aff'd*, 816 F.2d 617, 2 USPQ2d 1350 (Fed. Cir. 1987), *cert. denied*, 108 S. Ct. 149 (1987) ("The term 'consisting essentially of' limits the scope of the claims to the specified

ingredients, and those that do not materially affect the basic and novel characteristics of a composition."); *Air Products & Chem., Inc. v. Chas. S. Tanner Co.*, 219 USPQ 223 (D.S.C. 1983) ("consisting essentially of": "This term of patent art serves to limit or close the claim to the inclusion of certain additional, nonrecited ingredients, specifically those which, in nature and amount, would change the basic and novel characteristics of the claimed composition. It does not close the claim to other ingredients which do not change the adhesive's basic character."); *Medtronic, Inc. v. Catalyst Research Corp.*, 547 F. Supp. 401, 216 USPQ 687 (D. Minn. 1982) ("consisting essentially of": "These words are words of limitation that leave the claim open to the inclusion of additional ingredients beyond those following the terms, but only if those ingredients do not materially alter the basic and novel characteristics of the claimed invention."); *Carter-Wallace, Inc. v. Gillette Co.*, 531 F. Supp. 840, 211 USPQ 499 (D. Mass. 1981), *aff'd*, 214 USPQ 497 (1st Cir. 1982); *Standard Oil Co. v. Montedison, S.p.A.*, 494 F. Supp. 370, 206 USPQ 676 (D. Del. 1980), *aff'd*, 664 F.2d 356, 212 USPQ 327 (3d Cir. 1981) (interference count with limitation "polypropylene, consisting essentially of recurring propylene units": the count "does not require that the polypropylene units be composed *solely* of recurring propylene units. As set forth by the Examiners, 'The presence of very small irregularities in the polymer chain, in an amount insufficient to effect the basic character of the composition, would not disqualify a polymer from falling within the scope of the substituted count.'"); *Ex parte Hoffman*, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Int'l 1989) ("Although 'consisting essentially of' is typically used and defined in the context of compositions of matter, we find nothing intrinsically wrong with the use of such language as a modifier of method steps . . . [it] render[s] the claim open only for the inclusion of steps which do not materially affect the basic and novel characteristics of the claimed method. To determine the steps included versus excluded by this language, the claim must be read in light of the specification. . . . [I]t is an applicant's burden to establish that a step practiced in a prior art method is excluded from his claims by 'consisting essentially of' language."); *Larkin v. Kauder*, 202 USPQ 193 (PTO Bd. Pat. Int'l 1978).

Compare *Ex parte Davis*, 80 USPQ 448 (Pat. Off. Bd. App. 1949) (suggesting that "consisting essentially of" renders a claim indefinite and suggesting substitution of "comprising essentially").

In *Ziegler v. Phillips Petroleum*, 483 F.2d 858, 177 USPQ 481 (5th Cir. 1973), *cert. denied*, 414 U.S. 1079 (1973), the claim was for a catalyst "consisting essentially of" elements A and B. The alleged infringer used a compound with A and B plus element C and argued that the "consisting essentially of" language limited the claim strictly to catalysts with elements A and B and no more. The patent owner responded that the language meant only to confine the claim to catalysts in which A and B were essential rather than incidental elements, and the court agreed. "In the absence of any evidence that a third component was being excluded by the 'essentially consisting of' language, we cannot read those words as meaning 'consisting solely of' or

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The body of the claim is the recitation or listing of the elements and limitations which define the product or process to be encompassed within the patent monopoly.^{9.1}

[c]—**Improvements—Jepson Claims.** A “Jepson” claim is one that begins with a preamble that recites an old device, process or combination, continues with a transition that states “wherein the improvement comprises” or “the combination with said [old device] of,” and concludes with the body of the claim as the statement of the new elements or improvements upon the old device, process or combination. The Patent and Trademark Office favors the use of Jepson claims since they clearly segregate what is old in the art from what the applicant claims as his invention. It is clear that the preamble in a Jepson claim does constitute a limitation for purposes of determining patentability and infringement.¹⁰

“consisting exclusively of.” Rather, the most logical and persuasive construction of the phrase would be to read it as limiting the . . . catalyst to one in which both elements are necessarily present.” 483 F.2d at 878. For a later decision dealing with the same patents that were in issue in *Ziegler*, see *Studiengesellschaft Köhle v. Eastman Kodak Co.*, 616 F.2d 1315, 1340–42, 206 USPQ 837 (5th Cir. 1980), *cert. denied*, 449 U.S. 1014 (1980), *appeal after remand*, 713 F.2d 128, 219 USPQ 958 (5th Cir. 1983) (court construes patent claiming a catalyst composed of (1) an aluminum trihydrocarbon and (2) a titanium salt as not covering a catalyst composed of (1) an aluminum trihydrocarbon and (2) a particular titanium salt, and (3) lithium butyl; “in catalytic chemistry, minor changes in components, their ratio, or the external conditions of the reaction may produce major changes in the reaction itself”).

^{9.1} The Federal Circuit has indicated that the term “limitation” is more descriptive and clear than “element.”

“References to ‘elements’ can be misleading. ‘Elements’ often is used to refer to structural parts of the accused device or of a device embodying the invention. ‘Elements’ is also used in the phrase ‘[a]n element of a claim’ in 35 U.S.C. § 112 ¶ 6. An element of an embodiment of the invention may be set forth in the claim . . . It is the *limitation* of a claim that counts in determining both validity and infringement, and a limitation may include descriptive terms . . . [C]larity is advanced when sufficient wording is employed to indicate when ‘elements’ is intended to mean a component of an accused device or of an embodiment of an invention and when it is intended to mean a feature set forth in or as a limitation in a claim.”

Perkin-Elmer Corp. v. Westinghouse Electric Corp., 822 F.2d 1528, 1533 n. 9, 3 USPQ2d 1321, 1325 n. 9 (Fed. Cir. 1987).

¹⁰ E.g., *Wells Mfg. Corp. v. Littelfuse, Inc.*, 547 F.2d 346, 192 USPQ 256 (7th Cir. 1976); *Entec Plastics Engineering Corp. v. Gates Rubber Co.*, 206

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^{3.16} 36 USPQ2d at 1214.

[b]—Preamble, Transition, and Body

A claim typically contains three parts: the preamble, the transition and the body.^{3.1}

^{3.1} See *Roberg v. 20th Century Plastics, Inc.*, 40 F. Supp. 2d 208, 218 n.9 (D. N.J. 1999) (citing Treatise); *Stx, Inc. v. Brine, Inc.*, 1999 WL 102029 (Md. 1999) (citing Treatise); *Cleanox Environmental Services, Inc. v. Hudson Environmental Services, Inc.*, 14 F. Supp. 2d 601, 608 n.9 (D. N.J. 1998) (citing Treatise); *Procter & Gamble Co. v. Paragon Trade Brands, Inc.*, 989 F. Supp. 547, 568 (D. Del. 1997) (citing Treatise); *California Medical Products, Inc. v. Tecnol Medical Products, Inc.*, 921 F. Supp. 1219, 1227 (D. Del. 1995) (citing Treatise).

^{3.2} *Procter & Gamble Co. v. Paragon Trade Brands, Inc.*, 989 F. Supp. 547, 568 (D. Del. 1997) (quoting Treatise); *California Medical Products, Inc. v. Tecnol Medical Products, Inc.*, 921 F. Supp. 1219, 1227 (D. Del. 1995) (citing Treatise); *E. I. du Pont de Nemours & Co. v. Monsanto Co.*, 903 F. Supp. 680, 693 (D. Del. 1995) (quoting Treatise).

The transition is a phrase connecting the preamble to the body of the claim.^{6.1} The content of the phrase may indicate whether the elements stated in the body are “open” or “closed.”^{6.2}

^{6.1} See *California Medical Products, Inc. v. Tecnol Medical Products, Inc.*, 921 F. Supp. 1219, 1227 (D. Del. 1995) (citing Treatise).

^{6.2} See *University of California v. Eli Lilly and Co.*, 39 USPQ2d 1225, 1234 n.15 (S.D. Ind. 1995), *aff'd*, 119 F.3d 1559, 43 USPQ2d 1398 (Fed. Cir. 1997), *cert. denied*, 118 S. Ct. 1548 (1998) (quoting Treatise); “Some information pertaining to patent claim drafting is in order. There are three parts to a claim: the preamble, the transition and the body. The transition is the part with which we currently are concerned. Generally, there are three categories of transitions. . . . An open-ended transition is recognized by use of the term ‘comprising’ or the phrase ‘which comprises.’ . . . A closed-ended transition employs either the phrase ‘consisting of’ or the phrase ‘which consists of.’ . . . Finally, the intermediate transition, sometimes referred to as nearly closed-ended, is identified by either the phrase ‘consisting essentially of’ or ‘which consists essentially of.’ . . . The intermediate transition excludes ‘additional, unspecified components that would affect the basic and novel characteristics of the product defined in the balance of the claim.’ ”).

^{6.3} *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 874, 48 USPQ2d 1161, 1167 (Fed. Cir. 1998) (a claim to a composition comprising adjacent block copolymer molecules does not read on a composition that contains only an insignificant amount of such molecules; “The use of ‘comprising’ and ‘which comprises’ in the composition and process claims generally would mean that the claims require the presence of a sufficient quantity of block copolymer molecules, but that additional elements or process steps may be present. See *Genentech, Inc. v. Chiron Corp.* . . . (Fed. Cir. 1997) (‘comprising’ allows the addition of other elements so long as the named elements, which are essential, are included); *Moleculon Research Corp. v. CBS, Inc.* . . . (Fed. Cir. 1986) (‘comprising’ opens a method claim to the inclusion of additional steps, but does not affect the scope of the structure recited within the steps.”); *Regents of University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 1572, 43 USPQ2d 1398, 1409 (Fed. Cir. 1997), *cert. denied*, 118 S. Ct. 1548 (1998) (“The word ‘comprising,’ . . . as is well-established, permits inclusion of other moieties.”); *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) (“‘Comprising’ is a term of art used in claim language which means that the

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named elements are essential, but other elements may be added and still form a construct within the scope of the claim."); North American Vaccine, Inc. v. American Cyanamid Co., 7 F.3d 1571, 1583, 28 USPQ2d 1333, 1342 (Fed. Cir. 1993), discussed at § 18.03[3] N.18 (Rader dissenting: claim "uses open ended 'comprising' terminology"); Carl Zeiss Stiftung v. Renishaw PLC, 945 F.2d 1173, 1178, 20 USPQ2d 1094, 1098 (Fed. Cir. 1991) (a patent claim "which uses the term 'comprising,' is an 'open' claim which will read on devices which add additional elements"); Mossman v. Broderbund Software Inc., 51 USPQ2d 1752, 1758 (E.D. Mich. 1999) ("It is well settled in patent law that the word 'compromises' [sic: comprises] means that the recited elements are only a part of the device."); Kustom Signals Inc v. Applied Concepts Inc., 995 F. Supp. 1229, 1239, 46 USPQ2d 1056, 1063-64 (D. Kan. 1998) (claims used "the term 'comprising' in the opening clause and therefore are considered 'open ended' claims. . . . 'Comprising,' when used in claim language, means 'the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.' "); Lucas Aerospace, Ltd. v. Unison Industries, L.P., 899 F. Supp. 1268, 1275 (D. Del. 1995) (claim is "an open-ended claim comprised of a series of elements. As such, if an allegedly infringing device contains all of these elements, that device would be considered to infringe the patent, even if the device includes additional structures."); Additive Controls and Measurement Systems Inc. v. Flowdata Inc., 32 USPQ2d 1747, 1754 (S.D. Tex. 1994) ("The word 'comprising' is a term of art in patent law, and is 'open-ended.' . . . That is, the transitional term, 'which comprises' does not exclude additional, unrecited elements."); B.F. Goodrich FlightSystems Inc. v. Insight Instruments Corp., 22 USPQ2d 1832, 1840 (S.D. Ohio 1992) ("Use of the term 'comprised' renders this claim an 'open' claim which will read on devices which merely add additional elements or steps.").

Cf. Schering Corp. v. Amgen Inc., 18 F. Supp. 2d 372, 382-83 (D. Del. 1998) (citing Treatise: "in deciding whether to apply these 'special meanings' in construing a claim, one must first ask whether a special clause such as 'consisting of' is part of the preamble, body or transition of the patent. . . . Only if 'consisting of' is part of the transitional section of the claim will it be afforded the 'special' limited meaning enunciated above.").

Compare Spectrum International, Inc. v. Sterilite Corp., 164 F.3d 1372, 1380, 49 USPQ2d 1065, 1070 (Fed. Cir. 1998), discussed at § 18.03[4][b] *infra* (NOT AN ABROGATING WEASEL; " 'Comprising' is not a weasel word with which to abrogate claim limitations."); Novo Nordisk A/S v. Eli Lilly & Co., 1999 WL 1094213 *12 (D. Del. 1999) (patent's claim "to a complex that 'comprises: six molecules of a human insulin analog, two zinc ions, and at least three molecules of a phenolic derivative selected from the group' " does *not* allow more than two zinc ions: "When used as a transition, as in claim 1, the term 'comprises' means that the claim is open ended, so that it may include elements other than those explicitly recited in the claim. . . . However, in claim 1, the use of the term 'comprising' does not allow more than two zinc ions per hexamer complex because claim 1 precedes 'three phenolics' with the phrase 'at least' but does not precede 'two zinc ions' with 'at least.' The expression of a limitation in one element of a claim implies the exclusion of that term in other elements of the claim. . . . Moreover, each term in each claim must be given meaning."); Lovelett v. Peavey Electronics Corp., 41 USPQ2d 1192, 1197 (S.D.N.Y. 1996) ("Although, 'comprising' is a term of art in patent law, which 'does not exclude additional unrecited elements or steps,' . . . an additional structure in an accused product may not be disregarded where that structure is inconsistent with the patent's claim."); Ethicon Endo-Surgery v. United States Surgical Corp., 855 F. Supp. 1500, 1510 (S.D. Ohio 1994) (claim required a cartridge comprising longitudinal slots for receiving longitudinal pusher bars; "This description by our reading depicts the pusher bars as separate entities from the staple cartridge. [The patentee] argues that since [the claim] uses the patent term of art 'comprising,' we should conclude that the staple cartridge is not limited to the elements delineated in the claim. . . . However, the term

of art simply indicates that elements not enumerated may be included in the category as 'comprised.' When elements are specifically described in a claim as separate and distinct, it would be inconsistent to assume that the author intended the one to be included in the other.").

N. 7.1 Hewlett-Packard Co. v. Repeat-O-Type Stencil Manufacturing Corp., Inc., 123 F.3d 1445, 1451; 43 USPQ2d 1650, 1655 (Fed. Cir. 1997), *cert. denied*, 118 S. Ct. 1304 (1998) ("The claim term 'including' is synonymous with 'comprising,' thereby permitting the inclusion of unnamed components."); Regents of University of California v. Eli Lilly & Co., 119 F.3d 1559, 1573, 43 USPQ2d 1398, 1410 (Fed. Cir. 1997), *cert. denied*, 118 S. Ct. 1548 (1998), discussed at § 18.07 [5][c] *infra* (after a prior art rejection based on references, a patentee changed "comprising" to "having"; "The word 'having' still permitted inclusion of other moieties."); Caterpillar Inc. v. Detroit Diesel Corp., 961 F. Supp. 1249, 1256 n.10, 41 USPQ2d 1876, 1883 n.10 (N.D. Ind. 1996) (citing Treatise; "Use of the words 'including' and 'having' also denote a claim in open format."); Mobil Oil Corp. v. Amoco Chemicals Corp., 779 F. Supp. 1429, 1450 (D. Del. 1991) (citing Treatise; "When a claim recites the transitional term 'having', it generally indicates that the claim is open.").

N. 8 Novo Nordisk A/S v. Eli Lilly & Co., 1999 WL 1094213 *13 (D. Del. 1999) ("CONSISTING OF" INCLUDES ORDINARY IMPURITY; patent claim to insulin analogs; "in the context of chemical patents, 'consisting of' indicates closed claim language and closes the claim to the inclusion of unrecited elements, except for impurities ordinarily associated therewith," citing *Sakano v. Rutmiller*, 158 USPQ 47, 51 (Bd. Pat. Interf. 1968); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948).); Caterpillar Inc. v. Detroit Diesel Corp., 961 F. Supp. 1249, 1256, 41 USPQ2d 1876, 1883 (N.D. Ind. 1996) (citing Treatise); Sonoco Products Co. v. Mobil Oil Corp., 15 USPQ2d 1186 (D.S.C. 1989), *aff'd*, 15 USPQ2d 1194 (Fed. Cir. 1990) (claim required a structure "being" certain components; "being" excludes additional elements).

Cf. *In re Certain Doxorubicin and Preparations Containing Same*, 20 USPQ2d 1602 (U.S. Int'l Trade Comm'n 1991) ("the narrowness of the claim language here (including the use of the restrictive term 'consists of') argues for a correspondingly narrower 'range' of equivalents.").

Compare *Acme Resin Corp. v. Ashland Oil Inc.*, 20 USPQ2d 1305, 1309 (S.D. Ohio 1991) (the patentee's use of "consists of" language in his claim does not preclude him from asserting infringement under doctrine of equivalents); *General Electric Co. v. U.S. Synthetic Corp.*, 17 USPQ2d 1847, 1851 n.6 (D. Utah 1990).

N. 9 PPG Industries v. Guardian Industries Corp., 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998), discussed at § 18.06[2] n13.1, § 18.07[5] *infra* ("'Consisting essentially of' is a transition phrase commonly used to signal a partially open claim in a patent. Typically, 'consisting essentially of' precedes a list of ingredients in a composition claim or a series of steps in a process claim. By using the term 'consisting essentially of,' the drafter signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention. A 'consisting essentially of' claim occupies a middle ground between closed claims that are written in a 'consisting of' format and fully open claims that are drafted in a 'comprising' format."); Regents of University of California v. Eli Lilly & Co., 119 F.3d 1559, 1573, 43 USPQ2d 1398, 1410 (Fed. Cir. 1997), *cert. denied*, 118 S. Ct. 1548 (1998) (applicant changed "having" to "'consisting essentially of,' a narrower term"), discussed at § 18.0XXX *infra*; *Rogers Corp. v. Arlon, Inc.*, 855 F. Supp. 560, 568 (D. Conn. 1994) ("The term 'comprising' embraces other steps, elements, or materials in addition to the elements or components specified in the claims. . . . In contrast, a claim that is limited to the ingredients specified and those that do not materially affect the composition employs the term 'consisting essentially of.'"); *General Electric Co. v. Hoechst Celanese Corp.*, 740 F. Supp. 305, 16 USPQ2d 1977 (D. Del. 1990).

^{N. 9.}¹ Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 149 F.3d 1309, 1317 n.*, 47 USPQ2d 1272, 1277 n.* (Fed. Cir. 1998) ("[T]he All Elements rule might better be called the All Limitations rule. It will be referred to as such throughout the remainder of this opinion."); Cleanox Environmental Services, Inc. v. Hudson Environmental Services, Inc., 14 F. Supp. 2d 601, 608 n.9 (D. N.J. 1998) (quoting Treatise); California Medical Products, Inc. v. Tecmol Medical Products, Inc., 921 F. Supp. 1219, 1227 (D. Del. 1995) (citing Treatise).

[c]—Improvements—Jepson Claims

^{N. 10} Mossman v. Broderbund Software Inc., 51 USPQ2d 1752, 1754 (E.D. Mich. 1999) ("A Jepson claim is one that begins with a preamble that recites a public domain method, apparatus or combination, and continues with a transition that states 'wherein the improvement comprises...'. See *Ex Parte Jepson*, 243 O.G. 525 (Ass't Comm'r of Pat. 1917); 37 C.F.R. § 1.75. The terms in both the preamble describing the prior art and those elements constituting the improvement are substantive claim limitations. 37 C.F.R. § 1.75(e).").

^{N. 16} Cf. Kegel Company, Inc. v. AMF Bowling, Inc., 127 F.3d 1420, 1426, 44 USPQ2d 1123, 1127 (Fed. Cir. 1997) ("Jepson form allows a patentee to use the preamble to recite 'elements or steps of the claimed invention which are conventional or known.' 37 C.F.R. § 1.75(e) (1996). Recently, in *Rowe v. Dror*, . . . (Fed. Cir. 1997), we stated that '[w]hen this form is employed, the claim preamble defines not only the context of the claimed invention, but also its scope.' . . . As we recognized in *Rowe*, the fact that the patentee has chosen the Jepson form of the claim evidences the intention 'to use the preamble to define, in part, the structural elements of his claimed invention.' . . . Cf. *Pentec, Inc. v. Graphic Controls Corp.* . . . (Fed. Cir. 1985) (stating that 'the claimed invention consists of the preamble in combination with the improvement')."); *Rowe v. Dror*, 112 F.3d 473, 479, 42 USPQ2d 1550 (Fed. Cir. 1997) ("The Jepson form allows a patentee to use the preamble to recite 'elements or steps of the claimed invention which are conventional or known.' 37 C.F.R. 1.75(e) (1996). When this form is employed, the claim preamble defines not only the context of the claimed invention, but also its scope."); Ethicon Endo-Surgery, Inc. v. United States Surgical Corp., 93 F.3d 1572, 1577, 40 USPQ2d 1019, 1022-23 (Fed. Cir. 1996) (the patent claim at issue "is a Jepson claim. See *Ex parte Jepson*, 243 O.G. 525 (Ass't Comm'r Pat. 1917). Consequently, the inventive portion of the claim must lie in the clause beginning: 'the improvement comprising.' See *In re Simmons*, . . . 312 F.2d 821, 824 (C.C.P.A. 1963)."); Rain Bird Sprinkler Mfg. Corp. v. Toro Co., 28 USPQ2d 1448, 1452 N.5 (C.D. Calif. 1993) (the claims' preambles "relate to the prior art" because they "are written in the 'Jepson' format to distinguish what is prior art from that which the inventor considers to be improved. See 37 C.F.R. 1.75(e)."). See also Naso v. Park, 856 F. Supp. 201, 34 USPQ2d 1463 (S.D.N.Y. 1994).

^{N. 21} Xilinx, Inc. v. Altera Corp., 1998 WL 8229565 (N.D. Calif. 1998) (citing Treatise).

[d]—The Preamble as a Limitation on the Claim—“Whereby” Clauses

^{N. 20} *Rowe v. Dror*, 112 F.3d 473, 42 USPQ2d 1550 (Fed. Cir. 1997); Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 34 USPQ2d 1816 (Fed. Cir. 1995) (citing Treatise); Texas Instruments Inc. v. U.S. Int'l Trade Comm'n, 988 F.2d 1165, 1171, 26 USPQ2d 1018, 1023 (Fed. Cir. 1993), discussed at §§ 18.03[1][a] N. 50, 18.04[5][a] N. 9.18, 18.05[2][c] N. 28 *infra* ("A 'whereby' clause that merely states the result of the limitations in the claim adds nothing to the patentability or substance of the claim."); Stimsonite Corp. v. Nightline Markers, Inc., 33 F. Supp. 2d 703, 709-710 (N.D. Ill. 1999) ("Although functional language is